

Automated detection of adverse drug reactions from social media posts with machine learning

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Abstract

© Springer International Publishing AG 2018. Adverse drug reactions can have serious consequences for patients. Social media is a source of information useful for detecting previously unknown side effects from a drug since users publish valuable information about various aspects of their lives, including health care. Therefore, detection of adverse drug reactions from social media becomes one of the actual tools for pharmacovigilance. In this paper, we focus on identification of adverse drug reactions from user reviews and formulate this problem as a binary classification task. We developed a machine learning classifier with a set of features for resolving this problem. Our feature-rich classifier achieves significant improvements on a benchmark dataset over baseline approaches and convolutional neural networks.

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Keywords

Adverse drug reactions, Deep learning, Health social media analytics, Machine learning, Text mining

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